



## New Book: *Earned Schedule*

By Walt Lipke, Member of Oklahoma City Chapter, PMI

*"As the use and knowledge of the ES method has propagated globally, along with advances to its theory and application, an increasing number of requests for an Earned Schedule book have been received. This book is in response to those interested people. Furthermore, it is my intent that the book serve the larger purpose of increasing the uptake and application of EVM through the enhancement afforded by the schedule analysis capabilities offered by ES."*

— Walt Lipke, *Earned Schedule*

**A**fter my book was published (December 2009), I requested the Project Management Institute College of Performance Management (PMI-CPM) place a news item on their web site announcing its availability, especially for the membership. The response was very surprising. PMI-CPM's Vice President of Communications Bob Horrigan offered to publish an article on the *Earned Schedule* book in *The Measurable News*. I am extremely grateful to Bob and other members of the staff, Gaile Argiro and Peter Schwarz, for the opportunity and encouragement to submit this article. Thank you all.

This article provides an overview of the book and its contents. The section titled "Book Excerpt" and the quote are from the preface. As you will read, the events that influenced me to create *Earned Schedule* were highly unlikely to occur as they did, and the technology needed for its propagation was simply unavailable at other times. It was an amazing confluence. As indicated in the excerpt, the PMI-CPM conference has considerable value in the exchange of information and ideas, and the internet fosters collaboration today unheard of not so very long ago.

Possibly of interest to members are the references made to PMI-CPM leaders, past and present. Several leaders are specifically identified in the book's acknowledgements as having impact on furthering the acceptance and uptake of earned schedule. I am very much indebted to their effort and support.

### General Synopsis

If you are unaware of earned schedule (ES), it is an extension to earned value management (EVM) that facilitates analysis of schedule performance. The

*Earned Schedule* book is intended for those who use EVM, including project managers, engineers and performance analysts. ES is a significant enhancement to EVM, extending its cost-based features to time-based management and control of schedule performance. By using ES and EVM together, project management of cost and schedule can now be treated in a truly integrated sense.

The book builds from the fundamentals of EVM to derive the concept of ES. The performance measurement baseline and earned value from EVM are utilized to extract time-based schedule performance measures, indicators, and predictors. From this foundation, complexity is incrementally added with descriptions and examples for performance analysis, prediction, and project control. Specific features of ES useful to project management are included and illustrated for the following: forecasting of completion date, analysis of critical path, drill-down identification of process constraints, impediments, and areas of concern for rework. Advanced topics of effective earned value and statistical methods for project planning and forecasting, applicable to both cost and schedule, are presented as well.

### Book Reviews

As of March 8, 2010, four reviews of *Earned Schedule* have been posted on Amazon. These book reviews can be viewed at the Amazon web site ([www.amazon.com](http://www.amazon.com)). Ray Stratton, as well, has reviewed the book in the February 2010 Management Technologies publication *The EVM Newsletter™*.

## Availability

The book is available from several retail sources: Lulu, Amazon, and Barnes & Noble. In the near future, it is expected to become available at the PMI Bookstore and the Apple iBookstore for the new iPad. The book may be purchased in paperback from the retail sources for \$36.04 (USD). Additionally, Lulu offers the book as a download at the price of \$13.99 (USD), while the Apple iPad version is priced at \$19.99 (USD).

## About the Author



Walt Lipke is a professional engineer and holds a masters degree in physics. He is a graduate of the USA DoD course

for program managers. Mr. Lipke has published several articles and presented at conferences internationally on the benefits of software process improvement and the application of earned value management and statistical methods to project management. During 2007, Mr. Lipke received the PMI Metrics Specific Interest Group Scholar Award and the PMI Eric Jenett Award for Project Management Excellence for his leadership role and contribution to project management resulting from his creation of the ES method.



### Excerpt from Earned Schedule

In the spring of 2002, I attended the PMI-CPM Conference. At the conference Mr. Quentin Fleming gave a very basic lecture on Earned Value Management (EVM). I attended the session primarily to be in his presence and hear him speak on the topic of EVM, which he has championed for so long. In Mr. Fleming's presentation he made some comments about Dr. David Christensen's research concerning the behavior of the Cost Performance Index (CPI). The next morning I happened to see Mr. Fleming as he was leaving the conference and asked if there was any research similar to Christensen's for the Schedule Performance Index (SPI). His response was "No there isn't. Besides, the schedule indicators fail."

Later that evening I had dinner with an EVM tool vendor. In our discussion I asked if the vendor's tool dealt with the EVM schedule performance indicators. His response did not inspire confidence that the analysis output from the tool provided useful information for project managers.

Upon returning home I decided that the existing state for schedule analysis using EVM data was seriously lacking. I then began experimenting with various ways of using EVM data for extracting consistently reliable schedule performance information.

A viable approach was soon discovered. This method for obtaining schedule information from EVM data was prototyped successfully and then fully implemented on several projects. After implementing the method, I wrote the seminal paper, "Schedule is Different," which was subsequently published in two successive releases of The Measurable News, March and Summer 2003 issues. The initial publication in March 2003 erroneously did not include the article's figures and tables, which was corrected in the subsequent issue.

The article captured the interest of an Australian, Mr. Kym Henderson who contacted me asking about the missing figures and tables. Mr. Henderson then tested the method using data from a set of six projects, some of which had stop work and other erratic conditions. He found that the published method worked remarkably well, consistently providing predicted information which conformed to the actual performance of his projects.

From that time, the method has been shown to have qualities for prediction and forecasting comparable to those for cost. These schedule analysis capabilities have long been thought to not be derivable from EVM data. Through application to actively managed projects and research, the reliable use of Earned Schedule (ES) for predicting final project duration has been verified.

Only one year after its introduction in 2004, the concept of ES was included in the Project Management Institute's Practice Standard for Earned Value Management. With the rapidly growing application and propagation of the ES method, internationally, in several industries, it became evident that a central point for aggregating and accumulating ES information into a body of knowledge was needed. In February 2006 the Earned Schedule Website ([www.earnschedule.com](http://www.earnschedule.com)) was launched to serve this purpose. The activity on the Website has steadily increased along with the usage of ES and the increasing volume of published materials.